

# COMMISSIONING OF BNL HARDWARE

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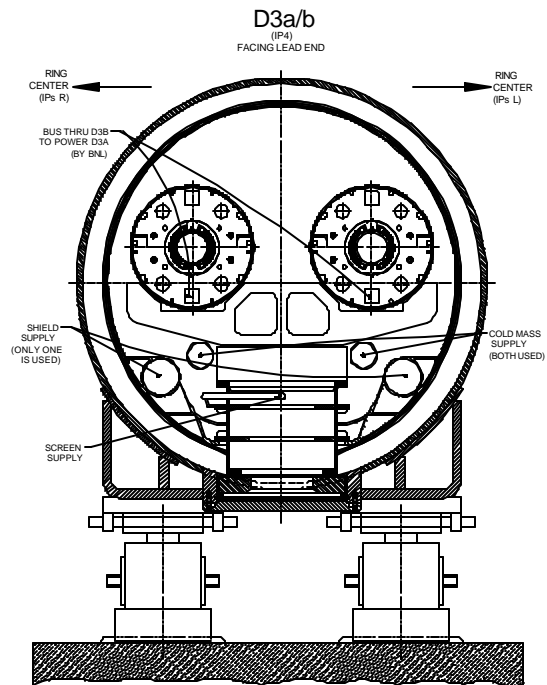
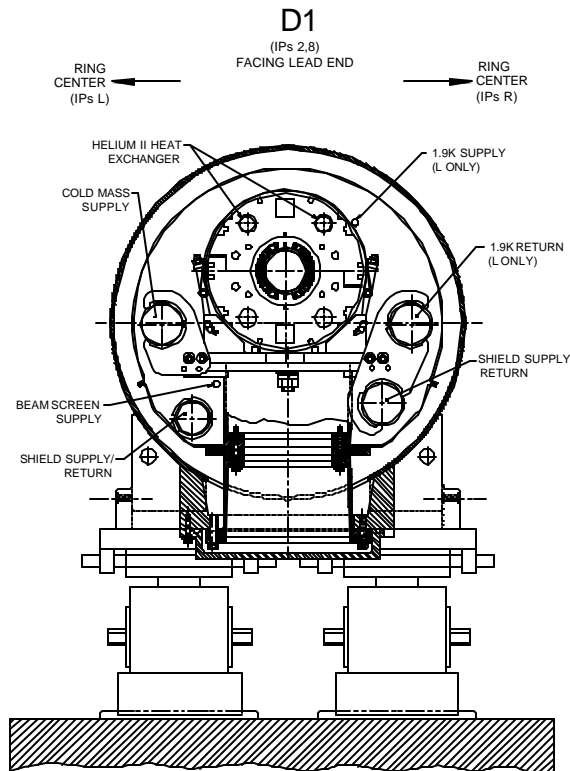
LARP workshop

September 16, 2003

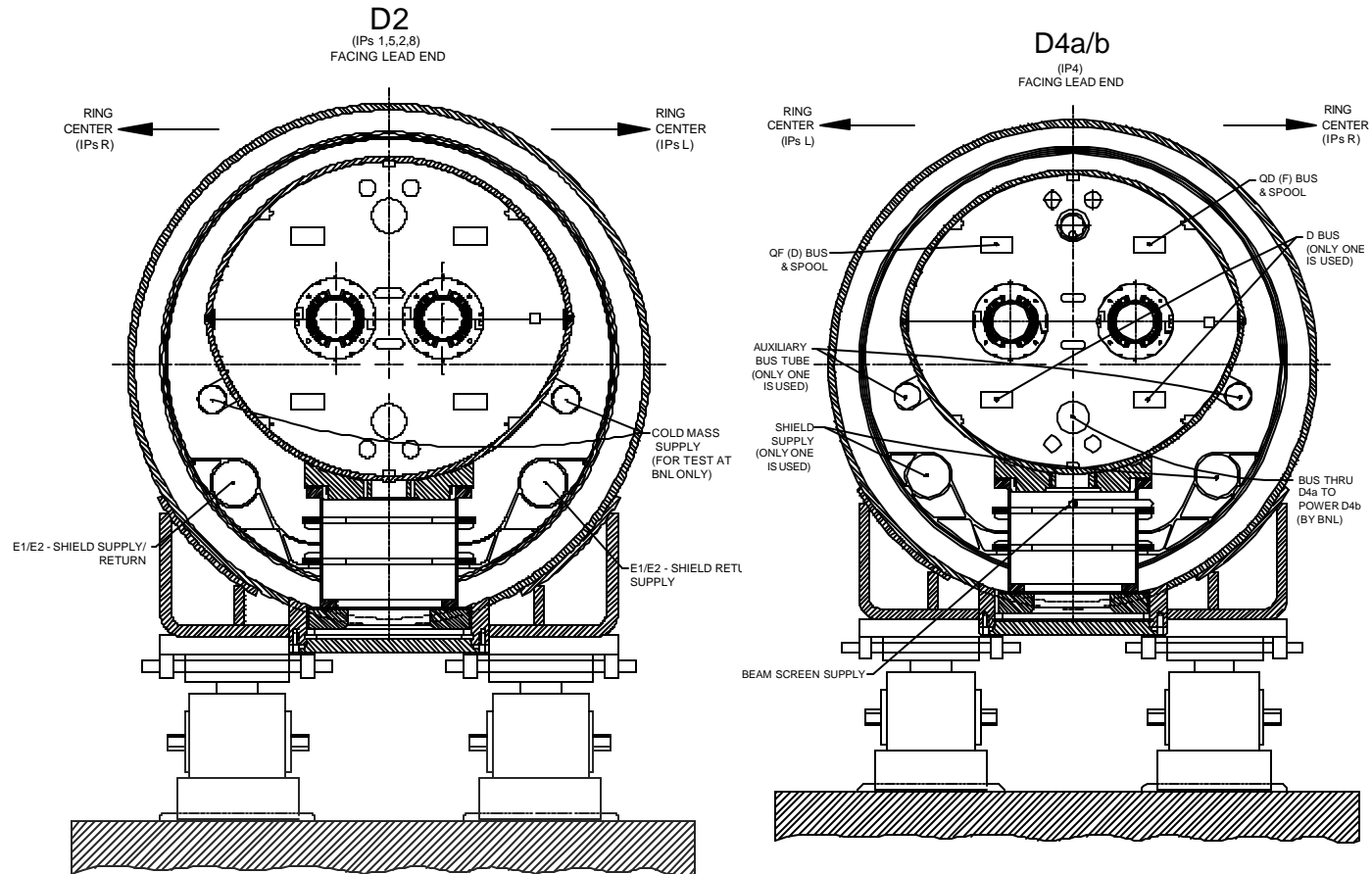
# BNL WORK FOR LHC

- 20 10 m dipoles, based on RHIC design
  - 5 D1 (one cold mass, one aperture)
  - 9 D2 (one cold mass, two apertures)
  - 3 D3 (two cold masses, two apertures)
  - 3 D4 (one cold mass, two apertures)
- Short-sample tests of cable for arc magnets
- Accelerator Physics studies

# D1 and D3



# D2 and D4



# DIPOLE LOCATION

- D1 & D2 -- Collision regions
  - D1: IR1, IR8
  - D2: IR1, IR2, IR5, IR8
- D3 & D4 -- RF region (IR4)
- A thought: D1, D2 installation more complex than D3, D4

# WAYS TO ASSIST

- **Installation:**
  - interconnect, warm checkout
  - highly desirable: first of each type
  - helpful: all the magnets
- **Commissioning:**
  - cold checkout (electrical, cryogenic)
  - ramp to operating field
  - extra: compare  $I_q$  in superfluid to  $I_q$  in forced flow

# INSTALLATION SCHEDULE

## – 1ST OF EACH TYPE

- Schedule: Rev. 1.7 (March 28, 2003)
  - list Q (quarter year) of start of installation
- D1 & D2 in IR8 - 2004Q3 (USFY04)
  - dates for other IR's: 2004Q4, 2005Q2 and Q4, 2006Q2
- D3 & D4 in IR4: 2005Q4 (USFY06)

# COMMISSIONING – 1ST OF EACH TYPE

- D1 & D2 in IR8 -- 2005Q2
- D3 & D4 in IR4 -- 2006Q2

# STAFF & SCHEDULE

- Installation and commissioning schedule, plus some schedule changes  
⇒ BNL effort can be ~ constant during this period.
  - Remark: could be helping install last part of USFY04, when funds are small.
- Staff: 1/3 FTE (2 months/year, 2 people)